Final Project
50 points

Congratulations! You (and 2-3 other "business associates") just inherited a small, fertile, forested island. Your goal is to create a fairly self-sufficient, sustainable community on the island. However, there are a few stipulations regarding its use.

- At least ¼ of the land must remain forested as a nature preserve, as it is the only known habitat for a very rare, endangered, and now protected species of animal
- At least ¼ of the land must be designated as farmland to provide food
- At least ¼ of the land must be developed for homes, industries, transportation, and recreation
- The remaining ¼ of the land can be divided up as you wish for any of the above options
- Directly in the middle of the island is a small pond that must be preserved
- Throughout the island, there are a series of creeks and streams that flow into the surrounding ocean. While they must also be preserved, you can decide how they will be incorporated into your community.
- Your community must be energy efficient, supplying enough energy for its residents
- In your design, you must also consider natural resources and pollution levels

Written Plan *(25 pts)*

- Answer the numbered questions in each section of the packet provided using complete sentences

Map *(10 pts)*

- Complete the map according to the directions in the packet as a "blue print" of your land use

Model *(15 pts)*

- Build a 3-D model made of recycled materials displaying at least one of your community's buildings/attractions/unique features you described in Part C
    - Use materials such as cereal boxes, milk jugs, pop bottles, newspapers, jars, cans, etc. in your design
- It must tie-in to your written plan by visually displaying how your island manages BOTH of the following areas:
    - Resources (Part A): Soil, Water, and/or Energy
    - Pollution (Part B): Water pollution, Air pollution, and/or Pest management
- It should be creatively and neatly done

Names _____

Written Plan (25 points)

Answer each of the following questions using complete sentences. Give as much detail as possible! You can use your notes and other activities from class to help you as needed.

A. Resources
   a. Soil
      1. How do you plan on making sure the soil stays fertile?

      2. How do you plan on reducing erosion?

   b. Water
      3. How do you plan on providing clean drinking water for your community?

      4. How do you plan on making sure water is conserved in your community?

   c. Energy
      5. What specific types of renewable and/or nonrenewable energy sources do you plan on using to power your community?

      6. How do you plan on implementing these energy resources within your community?

B. Pollution

a. Water

7. How will you minimize both point and nonpoint sources of pollution?

8. How will you minimize eutrophication in your pond?

b. Air

9. How will you reduce AND clean up air pollution? (consider types of pollutants, smog, greenhouse gases, the ozone layer, control strategies)

10. How will you prevent acid precipitation?

c. Land waste

11. How will you manage waste (garbage collection, landfills, recycling..)?

d. Pests

12. How will you manage pests in your community?

When answering the questions in Part C, be sure to first consider your responses to Parts A and B.

C. Land Use

a. Water

- Ponds

13. Explain the impact your pond will have in your community.

- Streams/creeks

14. Explain how your streams/creeks will be used in your community.

b. Forest

- Plants

15. What types of plants are in your forest AND why are they important to your community?

- Animals

16. What types of animals are in your forest AND why are they important to your community? (Be sure to include information about the rare, endangered, protected species)

c. Farmland

- Crops

17. What types of crops will you grow on your farm and WHY?

- Livestock

18. What types of animals will you breed on your farm and WHY?

d. Development

- Homes

19. Explain the features of a typical house in your community.

- Industries

20. Explain what types of factories exist in your community.

- Transportation

21. Explain how people and products will be transported throughout your community (and potentially off of the island).

- Recreation
    22. Explain the recreational attractions (parks/playgrounds, museums, stadium, zoo, theme park, etc) that exist in your community.

- Other Services
    23. Explain the safety services provided in your community. (fire, police, hospitals, etc.)

    24. Explain the school system in your community.

    25. Explain what types of stores/malls exist in your community.

<u>Map (10 pts)</u>

- Color code your map according to the key below
    - Green = Forest (nature preserve)
    - Yellow = Farmland
    - Red = Development (homes, industries, transportation, recreation)
- Draw and label roads, buildings, parks, and other notable features

Name _____

Evaluation
10 pts

1. What specifically did you contribute to this project?

2. What did you find challenging about this project?

3. What would you do differently if you had to go back and do it again?

4. What did you learn about environmental science from this project?

5. What did you learn from this project that you think you can apply to your life in the future?